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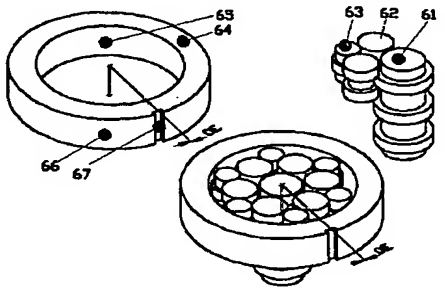
(54) Title: METHOD FOR MULTI ORBITAL ENGAGEMENT OF SURFACES BY FREE ROLLING BODIES AND MULTI ORBITAL DEVICES BASED ON THIS METHOD



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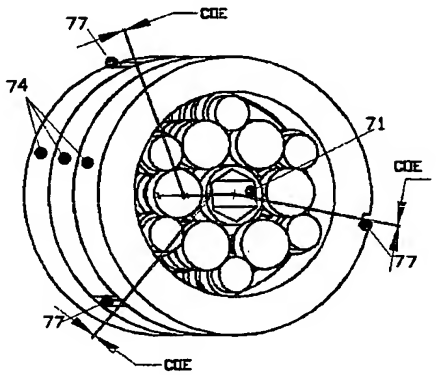

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(57) Abstract: The present invention provides a new bearing device of free rolling parts. According to the basic embodiment the bearing device is comprised of: an inner race, an outer race, two rows of rolling parts wherein each rolling part is in not in a contact with two adjacent rolling parts in the same row and in contact with rolling parts of at least one adjacent row and/or with the surface of one of the races. The bearing structure is designed to create orbital eccentricity between the inner race and the outer race. When a load is applied on said bearing it is equally distributed over all rolling parts. Furthermore, the load applied on said bearing decrease the orbital eccentricity, wherein minimum limit of orbital eccentricity is maintained through the working process. The device engagement of rolling parts is slack-free.

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